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Barbara Villani

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Attorney Docket No. 990651/LH

Pursuant to 37 CFR 1.53(b), transmitted herewith for filing is the patent application of

Inventor(s): **Shinichi KODAMA**
Tsuyoshi YAJI

Title: **"INTRAFINDER DISPLAY APPARATUS, FOR A CAMERA, UTILIZING ORGANIC ELECTROLUMINESCENCE DEVICES"**

Priority Claim (35 U.S.C. 119) is made, based upon:

Japan No. 10-310762 October 30, 1998

Enclosed herewith are:

[X] **Specification (Description, Claims, Abstract): Pages 1 - 22 ; Number of claims 1 - 21**

[X] **Declaration and Power of Attorney [X] executed; [ ] unexecuted (supplied for information purposes)**

[X] **5 Sheets of drawings, Figures 1 - 13 [X] Formal [ ] Informal**

[X] **Assignment and "Patents" Recordation Form Cover Sheet (PTO-1595) AND $40. RECORDATION FEE.**

[X] **Certified copy (ies) of priority document(s) identified above**

[X] **Information Disclosure Statement; [X] Form PTO-1449**

[ ] **Preliminary Amendment**

[ ] **Verified Statement(s) Claiming Small Entity Status**

[X] **Receipt Postcard**

	Number Filed		Number Extra	Rate		Calculations
Total Claims	21	-20 =	1	x $18.00	=	$ 18.00
Independent Claims	7	- 3 =	4	x $78.00	=	$ 312.00
MULTIPLE DEPENDENT CLAIMS				+ $260.00	=	$
				BASIC FEE		$ 760.00
				Total of above Calculations		$ 1,090.00

To the extent not tendered by check, authorization is given to charge any fees under 37 CFR 1.16 and 1.17 during pendency of the application, or to credit any overpayment, to Deposit Account No. 06-1378. Duplicate copy of this letter is enclosed.

FRISHAUF, HOLTZ, GOODMAN, LANGER & CHICK, P.C.

By: _____
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LH:bv

11/98

TITLE OF THE INVENTION

INTRAFINDER DISPLAY APPARATUS, FOR A CAMERA, UTILIZING ORGANIC ELECTROLUMINESCENCE DEVICES

BACKGROUND OF THE INVENTION

The present invention relates to an intrafinder display apparatus for a camera which displays a camera's state in the finder of the camera and in particular to an intrafinder display apparatus for a camera which effects display through the utilization of an electroluminescence (EL) device.

JPN PAT APPLN KOKAI PUBLICATION No. 9-189940 discloses the technique of arranging a plurality of divided liquid crystal elements in a finder of a camera and driving these elements to display a plurality of information as a pattern.

In the intrafinder display apparatus thus disclosed, however, the liquid crystal elements are not comprised of an illuminant and, therefore, the display itself depends upon transmitting light, so that, at a darker edge being envolved, the display appears dark. For this reason, extra back light, etc., is necessary and the apparatus itself becomes larger.

BRIEF SUMMARY OF THE INVENTION

The present invention has been achieved with the above in view and it is accordingly the object of the present invention to provide an intrafinder display apparatus for a camera which takes up no substantial

extra space and achieves a brighter, easy-to-see display at a low cost even in a darker edge involved.

According to a first aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a finder optical system;

an organic electroluminescence device formed on a surface of an optical member arranged near an image formation surface of the finder optical system; and

a drive circuit for driving the organic electroluminescence device.

According to a second aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a liquid crystal display element placed in a finder optical system to display information;

an organic electroluminescence device formed on the surface of the liquid crystal display element; and

a drive circuit for driving the organic electroluminescence device.

According to a third aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a finder optical system;

an organic electroluminescence device formed on a surface of an optical member arranged near an image formation surface of the finder optical system;

an EL drive circuit for driving the electroluminescence device; and

a display member arranged in front of the organic electroluminescence device and having an intrafinder display pattern, wherein intrafinder display is effected by illuminating the display member with the organic electroluminescence device.

According to a fourth aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a liquid crystal display element formed in a finder optical path to allow transmittance of light which is incident from a back surface to vary;

an organic electroluminescence device comprised of a surface illuminant capable of selectively switching emission light to a desired color of a plurality of colors and formed on the liquid crystal display element; and

display control means for allowing the emission light color of the organic electroluminescence device to vary.

According to a fifth aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a plurality of optical elements constituting a finder of the camera;

a pattern generator arranged in an optical path of

the finder and generating a display pattern of the finder under control of transmitting light; and

an organic electroluminescence device formed on any of one of the plurality of optical elements and a surface of the pattern generator to illuminate the pattern generator.

According to a sixth aspect of the present invention, there is provided an intrafinder display apparatus for a camera, comprising:

a screen mat arranged near a primary image forming surface in a finder optical path and providing an effective visual field and a finder image;

a transmitting type liquid crystal panel arranged near the screen mat and displaying a panorama mask at least at the taking of a panorama;

an organic electroluminescence device allowing light to be emitted in a plurality of colors; and

a CPU for controlling the liquid crystal panel and organic electroluminescence device.

According to a seventh aspect of the present invention, there is provided a focal plane plate for exchange comprising:

a screen for focusing;

an organic electroluminescence device arranged at an area other than an effective visual field of the screen; and

an electrical contact section provided at one side

portion of the screen to correspond to an electrical contact section on a camera side and connecting a drive circuit on the camera side and the organic electroluminescence device when the focal plane plate for exchange is mounted on the camera.

Additional objects and advantages of the invention will be set forth in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention. The objects and advantages of the invention may be realized and obtained by means of the instrumentalities and combinations particularly pointed out hereinafter.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate presently preferred embodiments of the invention, and together with the general description given above and the detailed description of the preferred embodiments given below, serve to explain the principles of the invention.

FIG. 1 is a view showing an array of optical component parts for a single-lens reflex camera with an intrafinder display apparatus according to a first embodiment of the present invention applied thereto;

FIG. 2A is a front view showing a screen mat in FIG. 1 and FIG. 2B is a side view thereof;

FIG. 3 is a cross-sectional view showing

a structure of an organic EL device;

FIG. 4 is a view showing a molecular structure of each of stacked macromolecules in FIG. 3;

FIG. 5 is a view showing a relation between a voltage applied across the electrodes of the organic EL device and an operation state;

FIG. 6 is a block diagram showing component parts relating to the present invention of the single-lens reflex camera in FIG. 1;

FIG. 7 is a flow chart showing an operation sequence of the single-lens reflex camera in FIG. 1;

FIG. 8 is a flow chart showing an intrafinder display process in FIG. 7;

FIG. 9 is a view showing an exchangeable structure for a screen mat;

FIG. 10 is a view showing an arrangement of optical component parts of a compact camera with an intrafinder display apparatus of a camera according to a second embodiment of the present invention applied thereto;

FIG. 11 is a view showing an arrangement of optical component parts of a finder section of a compact camera with an intrafinder display apparatus of a camera according to a third embodiment of the present invention applied thereto;

FIG. 12A is a front view showing a structure of a display element in FIG. 11 and FIG. 12B is a side

view thereof; and

FIG. 13 is a front view showing a variant of the display element in FIG. 11.

DETAILED DESCRIPTION OF THE INVENTION

An embodiment of the present invention will be explained below with reference to the accompanying drawing.

First Embodiment

An intrafinder display apparatus of a camera according to a first embodiment of the present invention is such that organic electroluminescence (hereinafter referred to as EL) devices serving as color light emitting elements are directly formed on a screen surface of a single-lens reflex camera.

In general, in a single-lens reflex camera, as shown in FIG. 1, a subject image from a photographing lens unit 10 leads to the eye 22 of a photographer through a mirror 12 and screen mat (focal plane plate) 14 in a camera body 16, a pentaprism 18 in a finder section and an eyepiece optical system 20. As shown in FIGS. 2A and 2B, two organic EL devices 24 are formed on the eyepiece side at an area (a lower portion in the present embodiment) other than a visual field 26 where the subject image is seen on the screen mat 14. A light shielding pattern 28 defining a character pattern "AF" is cut-formed at one of the organic EL devices 24 and a light shielding pattern 28 defining

a diagonal arrow pattern is cut-formed at the other organic EL device 24. Here, the organic EL device 24 is formed directly on the screen mat 14 with the use of a vapor evaporation, spin-coating, dipping or photobleaching method. And the light shielding pattern 28 is formed by the vapor evaporation and printing.

The organic EL device 24 is so configurated that, as shown in FIG. 3, stacked macromolecules (BPPC, TDP, PDHF) 30 are formed between an ITO transparent electrode 32 on a glass substrate 34 and an Mg-In electrode 36. It is to be noted that the molecular structures of the BPPC, TDP and PDHF are as shown in FIG. 4. And as shown in FIG. 5 the organic EL device emits green light in a forward bias state in which a predetermined voltage (5 to 8V) is applied only to the ITO transparent electrode 32 on the substrate side and emits red light in a reverse bias state in which the above-mentioned predetermined voltage is applied only to the Mg-In electrode 36.

Such organic EL device 24 is formed on the screen mat 14 with the ITO transparent electrode (not shown in FIG. 2B) set on the eyepiece side. As required, the forward or reverse bias is applied, so that the character pattern "AF" or diagonal arrow pattern can be displayed in a green color or red color.

FIG. 6 is a block diagram showing an electrical

arrangement of the single-lens reflex camera for that purpose. The organic EL device 24 is connected to a CPU 38 for controlling the camera as a whole. That is, the organic EL device 24 has a drive voltage specification substantially conform to that of the CPU 38 and, for this reason, is supplied, under the CPU 38, with a corresponding drive waveform as shown in FIG. 5 and directly controlled.

A first release switch (1st RSW) 40 and second release switch (2nd RSW) 42 and a main switch 44 are connected to the CPU 38, the 1st RSW 40 being turned ON by pushing down a first stage of a release button, not shown, arranged on an upper surface side of the camera and the 2nd RSW 42 being turned ON by pushing down a second stage of a release button. Further, an AE circuit 46, AF circuit 48, flash unit circuit 50 and lens unit 52 are connected to the CPU 38, the AE circuit 46 measuring the intensity of a subject, the AF circuit 48 measuring the distance to the subject, the flash unit circuit 50 being flash controlled, as required, under the CPU 38 on the basis of a result of measurement by the AE circuit 46, and the lens unit 52 being focus controlled, under the CPU 38, on the basis of a result of measurement by the AF circuit 48.

FIG. 7 is a flow chart showing an operation sequence executed by the CPU 38 in the single-lens reflex camera thus arranged. It is to be noted that,

for brevity's sake, this operation flow chart shows only a portion relating to the driving of the organic EL device 24.

That is, when the main switch 44 is turned ON (step S10), the CPU 38 initializes each associated section (step S12).

Then the CPU 38 decides whether or not the main switch 44 is turned ON (step S14). If it is not turned ON, this process is terminated.

If, on the other hand, the main switch 44 is turned ON, then the CPU 38 decides whether or not the 1st RSW 40 is turned ON (step S16). If, on the other hand, it is not turned ON, the process goes back to the step S14.

If the 1st RSW 40 is turned ON, the measuring of the light intensity and distance is made by the AE circuit 46 and AF circuit 48 (step S18). In accordance with that result, an intrafinder display is carried out (step S20), a detail of which will be set out below. After the intrafinder display process is performed, the CPU 38 again decides whether or not the 1st RSW 40 is turned ON (step S22). If it is not turned ON, the process goes back to the step S14.

If, on the other hand, the 1st RSW 40 is turned ON, the CPU further decides whether or not the 2nd RSW 42 is turned ON (step S24). If the 2nd RSW 42 is not turned ON, the process goes back to step S20.

And if the 2nd RSW 42 is turned ON, the photographing operation is performed (step S26) and then the process goes back to step S14.

The intrafinder display process at step S20 is performed as shown in FIG. 8.

As a result of measuring the light intensity by the AE circuit 46, the CPU decides whether or not a flash unit, not shown, need be turned ON by the flash unit circuit 50 (step S30). If it need not be turned ON, then the process goes to step S42 as will be later described without emitting light from the organic EL device 24 (diagonal arrow pattern) for flashing light display (step S32).

If, on the other hand, the flash unit need be flashed ON, the charging state of the flash unit is detected by a known detecting means not shown (step S34) and it is decided whether or not the charging is completed (step S36). If, as a result, the charging is not sufficient, the organic EL device 24 for flash light display is reverse biased and emits red color light (step S38). If, on the other hand, the charging is completed, the organic EL device 24 for flash light display is forward biased and emits green light (step S40).

On the other hand, the CPU 38 drives the lens unit 52 in accordance with a result of the measuring of the distance by the AF circuit 48 and, after

the execution of any of steps S32, S38, S40, decides whether or not the unit is set just in focus (step S42). If the unit is not set just in focus, the organic EL device 24 (character pattern "AF") for AF display is reverse biased and emits red light (step S44). If, on the other hand, it is set just in focus, the organic EL device 24 for AF display is forward biased and emits green light (step S46). And the process goes back to a higher-order routine.

Although in the present embodiment the light shield patterns 28 defining the character pattern "AF" and diagonal arrow pattern are cut-formed on the organic EL device 24, they may be formed to have the configuration of such character pattern and diagonal arrow pattern.

Although in the above-mentioned embodiment the screen mat 14 is fixed at the camera body 16, it may be detachably structured on the camera body 16 with the use of a connector. As shown in FIG. 9, for example, a cut section 54 is provided on one side portion of the screen mat 14 and is adapted to be fitted into a slit 56 in an in-line connector 58 provided on a camera side. By using such an exchangeable focal plane plate it is possible to provide an intrafinder display made as the user likes.

Second Embodiment

A second embodiment of the present invention will

be explained below. The second embodiment is such that organic EL devices are formed at a prism in a finder optical system of a compact camera.

That is, various kinds of finders are present among the compact cameras. As one of them a finder optical system is known which allows a subject image from a photographing lens unit 10 to lead to a photographer's eye 22 through a roof prism 60, penta prism 18 and eyepiece optical system 20. In such a finder structure, a real image formation face (in this case, a photographing lens side) of the roof prism 60 provides a face at which the organic EL devices 24 are formed.

The each organic EL device 24 is formed directly at its EL-device formation face 62 with the use of a vapor evaporation, spin coating, dipping or photobleaching method and it is driven under a forward or reverse bias in the same way as in the first embodiment and two-color light emission display is carried out.

Third Embodiment

A third embodiment of the present invention will be explained below. The third embodiment is such that organic EL devices are formed directly at a liquid crystal glass for intrafinder display in a compact camera.

As one of the finder structures of compact cameras,

a type is known which comprises an objective optical system 64, display element 66 and eyepiece optical system 68. Here, as shown in FIGS. 12A and 12B, the display element 66 is comprised of a liquid crystal mask with a liquid crystal 70 sandwiched with cover glasses 72 and, when a predetermined voltage is applied to those electrodes 74 corresponding to panorama patterns 76, sets the corresponding liquid crystal portions in a light shielding state to allow a shift to a visual field corresponding to a panorama photo-graphing. And the organic EL devices 24 are formed directly on the cover glass surface (on the eyepiece side) of the liquid crystal mask with the use of a vapor evaporation, spin coating, dipping or photobleaching method. Although, in the Figures above, electrodes of the each organic EL device 24 are not shown in particular, an ITO transparent electrode 32 is formed on the eyepiece side.

Even in the third embodiment, as in the case of the above-mentioned first embodiment, the organic EL devices 24 are driven under a forward or a reverse bias and, by doing so, it is possible to effect a two-color light emission display.

Although, in the third embodiment, the organic EL devices are formed as a character pattern "AF" and diagonal arrow pattern, they may be cut to define shield patterns 28 corresponding to these patterns as

in the case of the first embodiment.

Further, as shown in FIG. 13, the organic EL devices may be formed in any position unless that position adversely affects an observation of a subject image.

Although the present invention has been explained based on the above-mentioned embodiments, it is needless to say that the intrafinder display may be applied not only to the above-mentioned flash unit and AF warning but also to the display of various kinds of information.

Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details and representative embodiments shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims and their equivalents.

CLAIMS

1. An intrafinder display apparatus for a camera, comprising:

a finder optical system;

an organic electroluminescence device formed on a surface of an optical member arranged near an image formation surface of said finder optical system; and

a drive circuit for driving said organic electroluminescence device.

2. An apparatus according to claim 1, wherein the optical member includes any of a screen mat constituting a focal plane plate and a prism.

3. An apparatus according to claim 1, wherein

said organic electroluminescence device is comprised of a surface illuminant capable of selectively switching emission light to a desired color of a plurality of colors, and

said drive circuit is so driven as to allow an emission light color of said organic electroluminescence device to be switched in accordance with an operation state of a camera.

4. An intrafinder display apparatus for a camera, comprising:

a liquid crystal display element placed in a finder optical system to display information;

an organic electroluminescence device formed on the surface of said liquid crystal display element; and

a drive circuit for driving said organic electroluminescence device.

5. An intrafinder display apparatus for a camera, comprising:

a finder optical system;

an organic electroluminescence device formed on a surface of an optical member arranged near an image formation surface of said finder optical system;

an EL drive circuit for driving said electroluminescence device; and

a display member arranged in front of said organic electroluminescence device and having an intrafinder display pattern, wherein intrafinder display is effected by illuminating said display member with said organic electroluminescence device.

6. An apparatus according to claim 5, wherein the optical member is comprised of a screen mat.

7. An apparatus according to claim 5, wherein

said finder optical system includes a prism optical element, and

said organic electroluminescence device is formed on one face of said prism optical element.

8. An apparatus according to claim 5, wherein

said finder optical system includes a liquid crystal display element, and

said organic electroluminescence device is formed on at least one surface of said liquid crystal display

element.

9. An apparatus according to claim 5, wherein said organic electroluminescence device is formed on the surface of the optical member by any of a vapor evaporation, spin coating, dipping and photobleaching method.

10. An intrafinder display apparatus for a camera, comprising:

a liquid crystal display element formed in a finder optical path to allow transmittance of light which is incident from a back surface to vary;

an organic electroluminescence device comprised of a surface illuminant capable of selectively switching emission light to a desired color of a plurality of colors and formed on said liquid crystal display element; and

display control means for allowing the emission light color of said organic electroluminescence device to vary.

11. An intrafinder display apparatus for a camera, comprising:

a plurality of optical elements constituting a finder of the camera;

a pattern generator arranged in an optical path of the finder and generating a display pattern of the finder under control of transmitting light; and

an organic electroluminescence device formed on

any of one of said plurality of optical elements and a surface of said pattern generator to illuminate said pattern generator.

12. An apparatus according to claim 11, wherein the organic electroluminescence device is provided on a surface of the optical element near an image formation surface in the finder.

13. An apparatus according to claim 11, wherein said organic electroluminescence device has a plurality of selectable emission light colors.

14. An apparatus according to claim 11, wherein said pattern generator is comprised of a transmitting type liquid crystal element.

15. An intrafinder display apparatus for a camera, comprising:

a screen mat arranged near a primary image forming surface in a finder optical path and providing an effective visual field and a finder image;

a transmitting type liquid crystal panel arranged near said screen mat and displaying a panorama mask at least at the taking of a panorama;

an organic electroluminescence device allowing light to be emitted in a plurality of colors; and

a CPU for controlling said liquid crystal panel and organic electroluminescence device.

16. An apparatus according to claim 15, wherein said organic electroluminescence device is formed at

an area other than an effective visual field upon the taking of a subject.

17. An apparatus according to claim 15, wherein said organic electroluminescence device is formed on cover glass of a liquid crystal panel for panorama display.

18. An apparatus according to claim 15, wherein a desired display pattern is obtained by either forming a light shielding pattern defined by cutting a display pattern on said organic electroluminescence device or forming said organic electroluminescence device to a display pattern configuration.

19. An apparatus according to claim 15, wherein said organic electroluminescence device is controlled directly by said CPU.

20. An apparatus according to claim 15, wherein said screen mat is of an exchange type and is adapted to be electrically connected to a mounting section on a camera body side.

21. A focal plane plate for exchange comprising:

a screen for focusing;

an organic electroluminescence device arranged at an area other than an effective visual field of said screen; and

an electrical contact section provided at one side portion of said screen to correspond to an electrical contact section on a camera side and connecting a drive

circuit on the camera side and said organic electroluminescence device when the focal plane plate for exchange is mounted on the camera.

ABSTRACT OF THE DISCLOSURE

Organic electroluminescence (EL) devices displaying the information of a camera are formed directly on a surface of a screen mat arranged near an image formation surface of a finder optical system. A CPU for the camera drives the organic EL device, under a forward or a reverse bias, as required, to enable light of a green or a red color to be emitted.

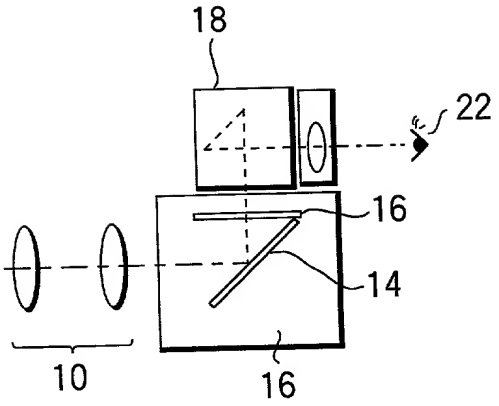


FIG. 1

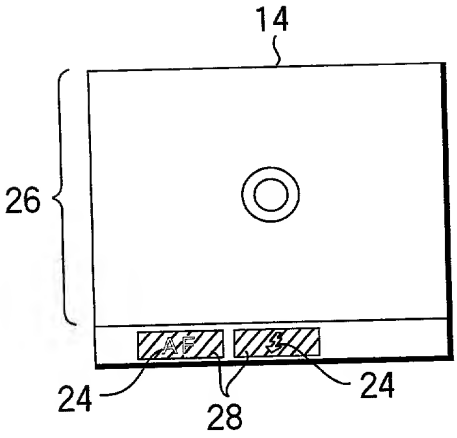


FIG. 2A

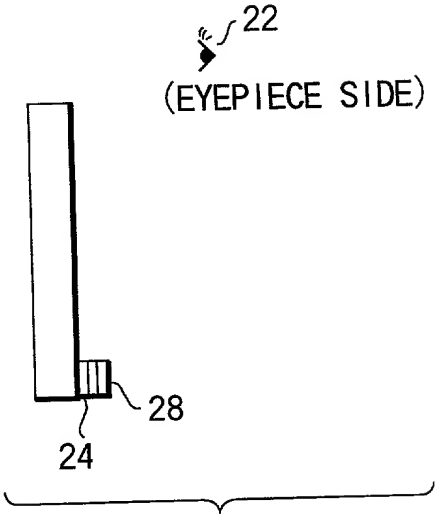


FIG. 2B

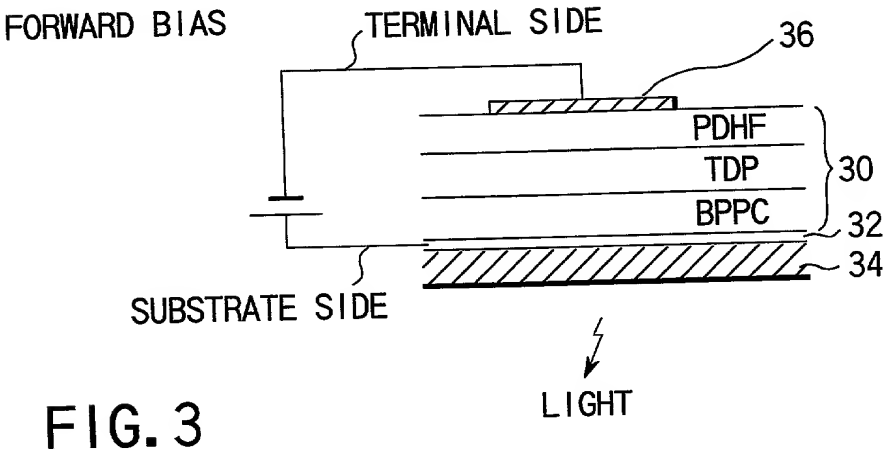


FIG. 3

FIG. 4

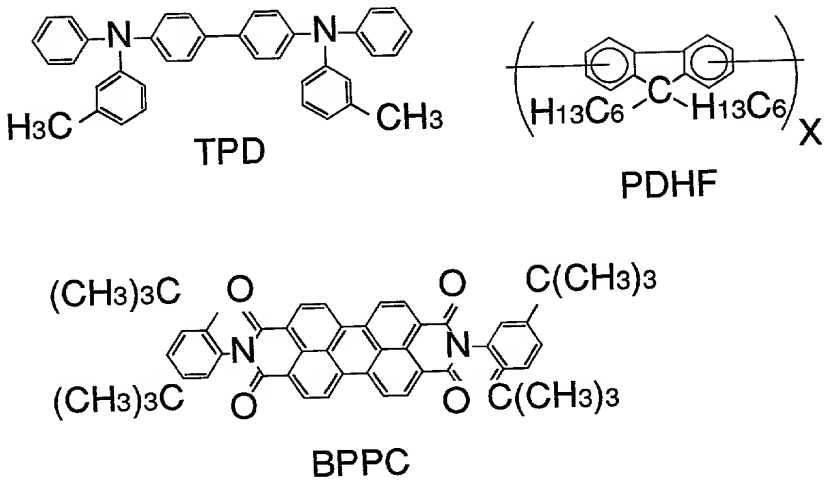
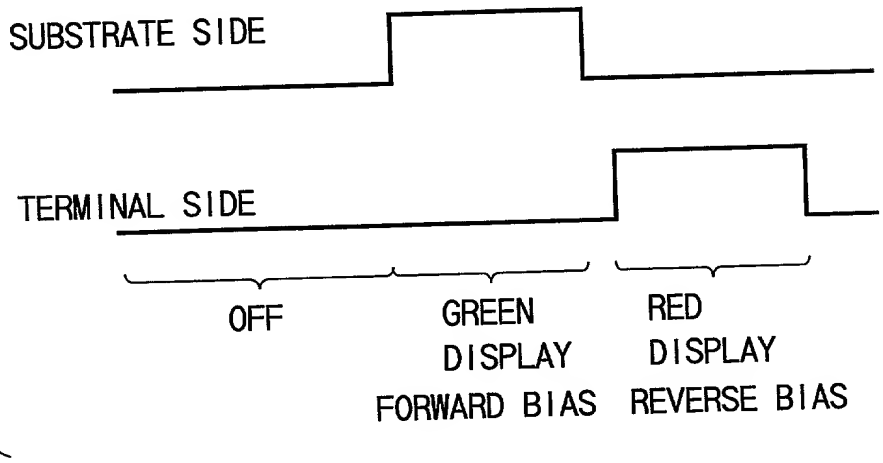


FIG. 5



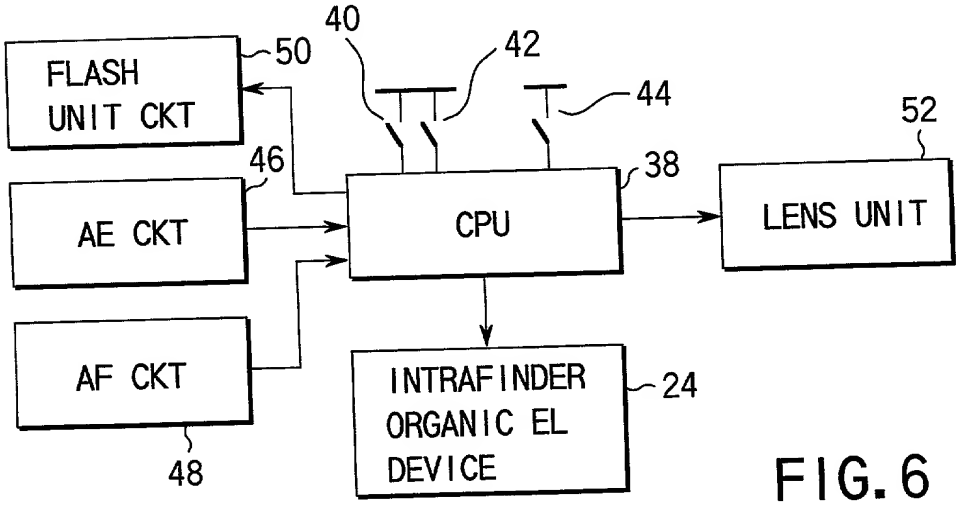


FIG. 6

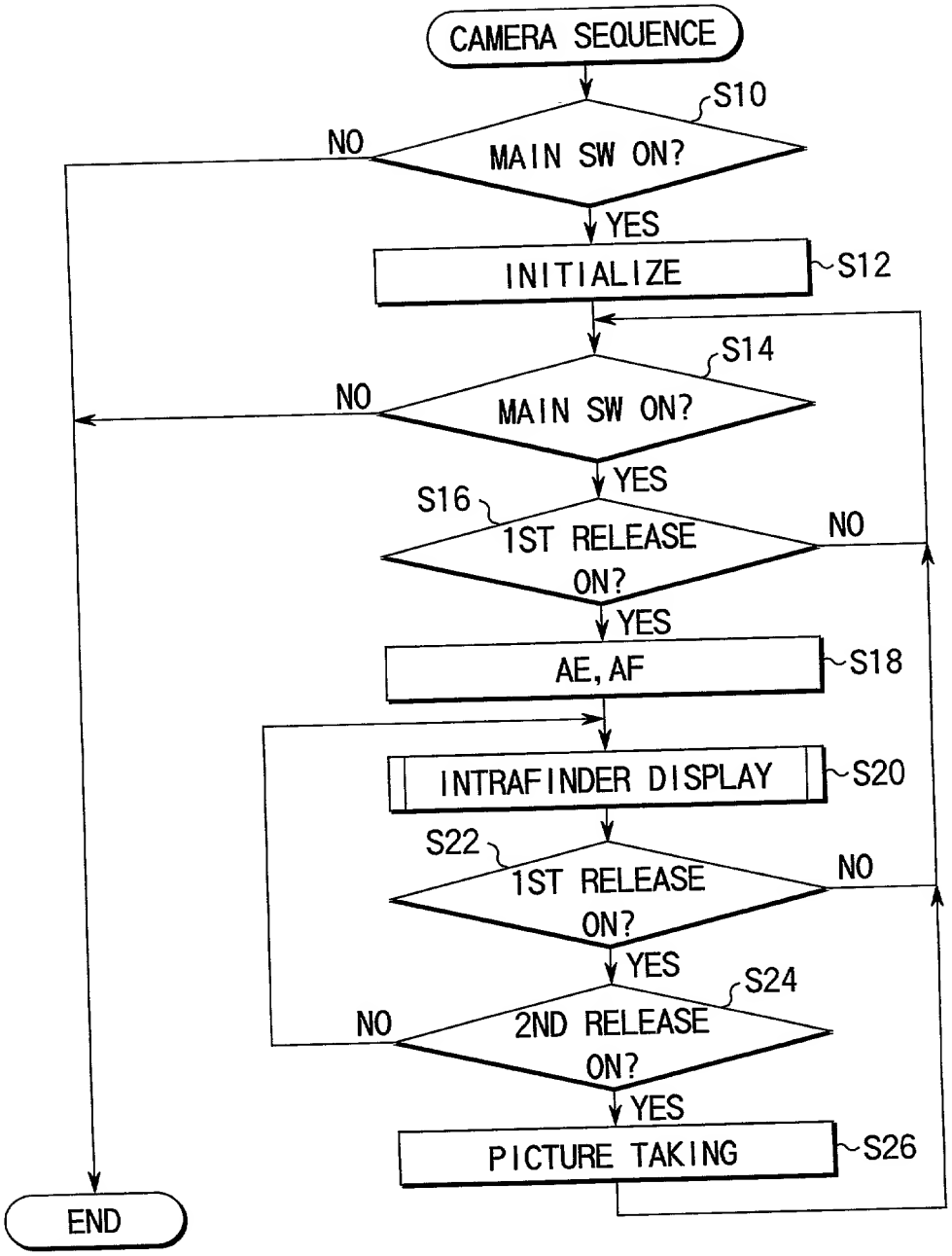

CAMERA SEQUENCE
S10
MAIN SW ON?
NO
YES
INITIALIZE
S12
S14
MAIN SW ON?
NO
YES
S16
1ST RELEASE ON?
NO
YES
AE, AF
S18
INTRAFINDER DISPLAY
S20
S22
1ST RELEASE ON?
NO
YES
S24
2ND RELEASE ON?
NO
YES
PICTURE TAKING
S26
END

FIG. 7

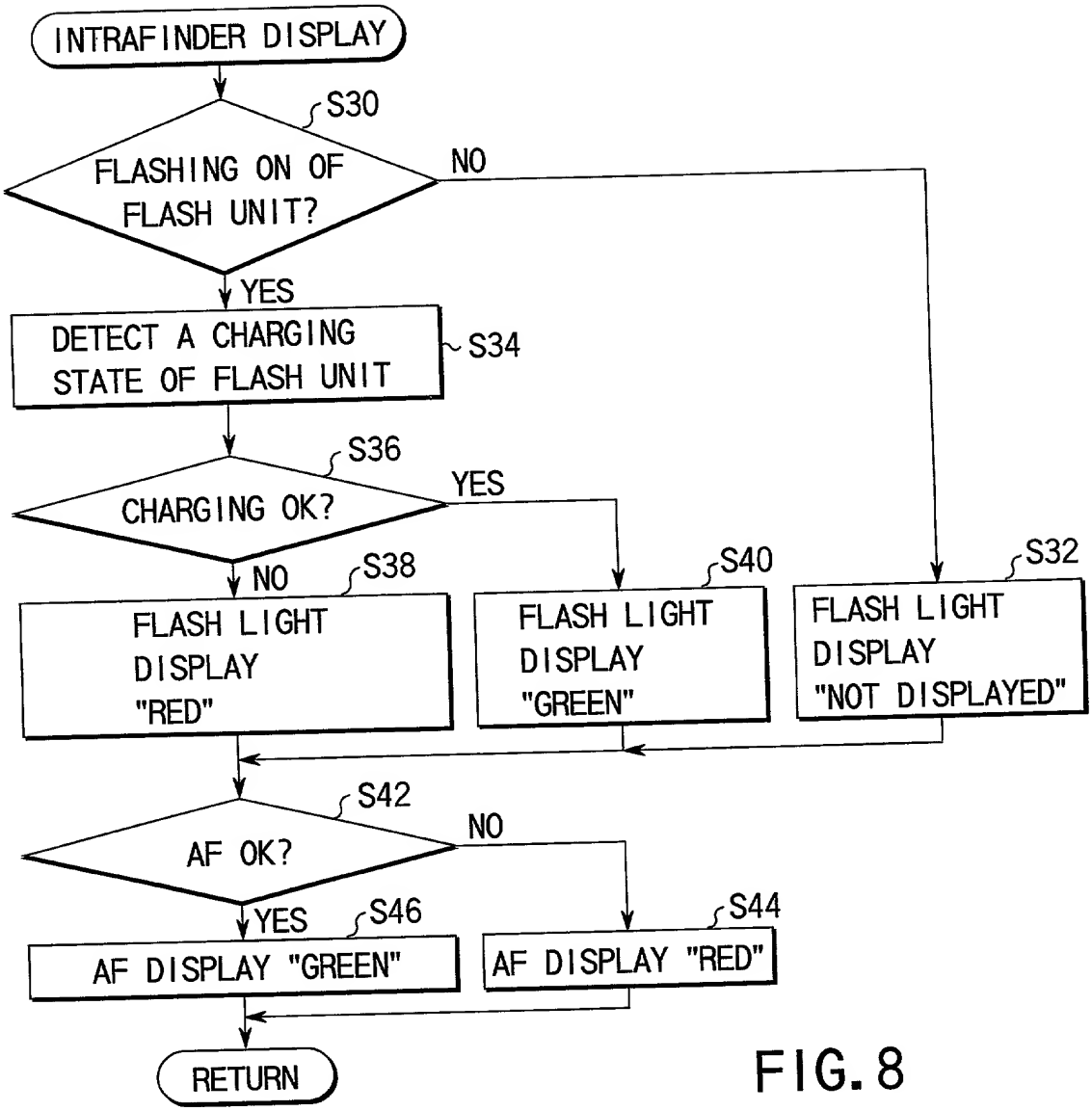

INTRAFINDER DISPLAY
S30
FLASHING ON OF FLASH UNIT?
NO
YES
DETECT A CHARGING STATE OF FLASH UNIT
S34
S36
CHARGING OK?
YES
NO
S38
FLASH LIGHT DISPLAY "RED"
S40
FLASH LIGHT DISPLAY "GREEN"
S32
FLASH LIGHT DISPLAY "NOT DISPLAYED"
S42
AF OK?
NO
YES
S46
AF DISPLAY "GREEN"
S44
AF DISPLAY "RED"
RETURN

FIG. 8

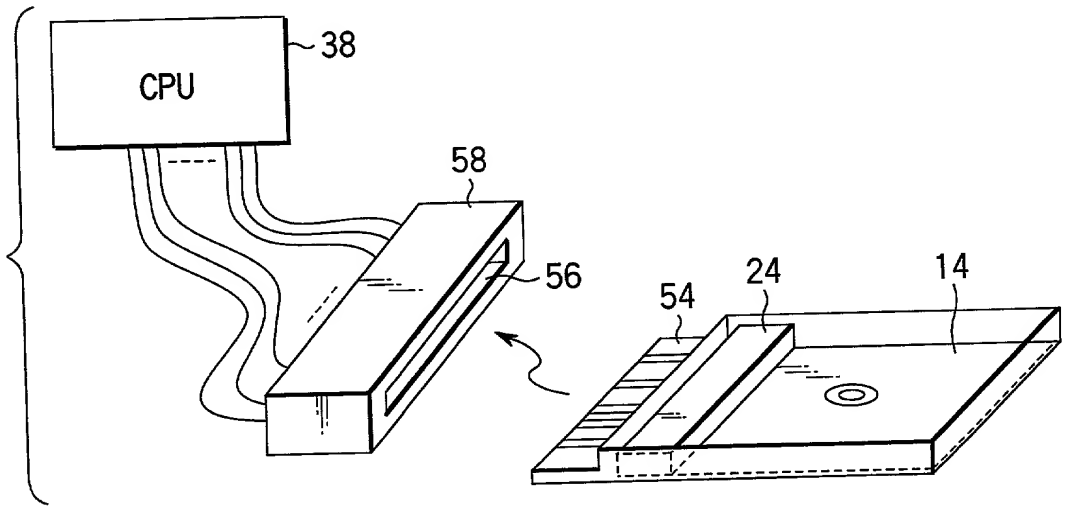

CPU
38
58
56
54
24
14

FIG. 9

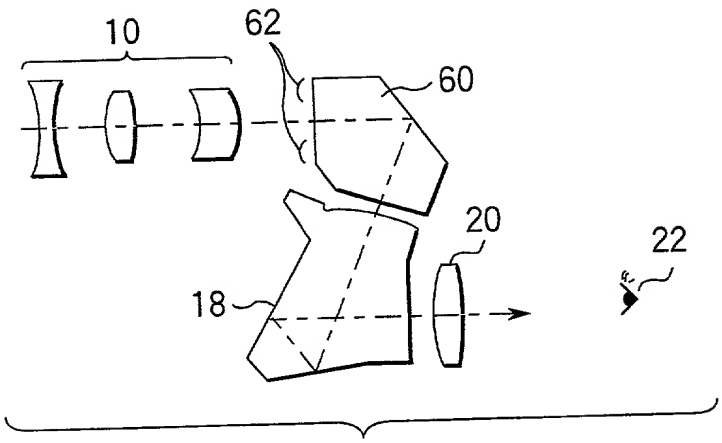


FIG. 10

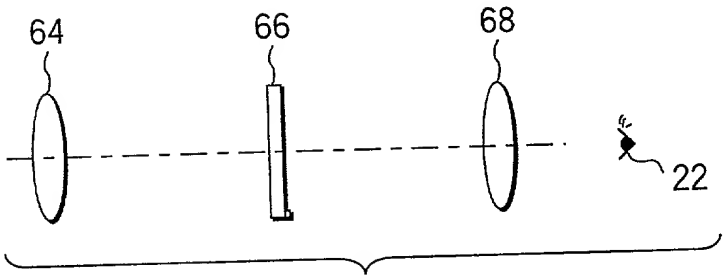


FIG. 11

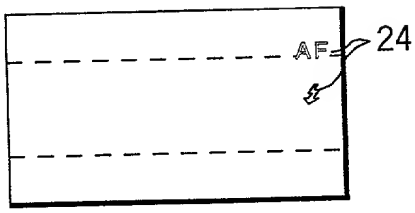


FIG. 13

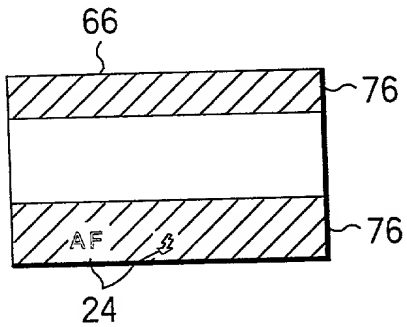


FIG. 12A

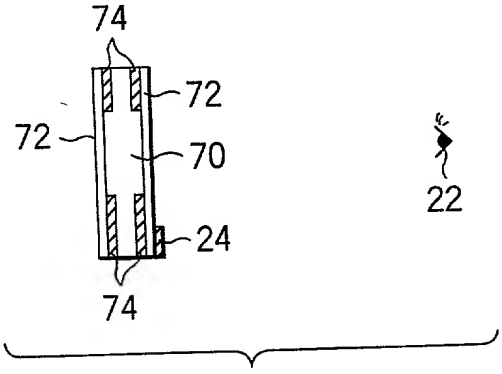


FIG. 12B

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Declaration Power of Attorney For Patent Application
特許出願宣言書及び委任状
Japanese Language Declaration
日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。

As a below named inventor, I hereby declare that:

私の住所、私書箱、国籍は下記の私の氏名の横に記載された通りです。

My residence, post office address and citizenship are as stated below next to my name,

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

有機エレクトロルミネッセンス素子を利用した，カメラのファインダ内表示装置

INTRAFINDER DISPLAY APPARATUS, FOR A CAMERA, UTILIZING ORGANIC ELECTROLUMINESCENE DEVICES

上記発明の明細書（下記の欄で×印がついていない場合は、本書に添付）は、

The specification of which is attached hereto unless the following box is checked:

☐ _____月___日に
提出され米国出願番号または特許協定条約
国際出願番号を _____ とし、
（該当する場合）_____月____日に訂正されました。

☐ was filed on _____
as United States Application Number or
PCT international Application Number
_____ and was amended on
_____ (if applicable).

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

私は、連邦規則法典第３７編第１条５６項に定義されるとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。

I acknowledge the duty to disclose information which is material to patentablilty as defined in Title 37, Code of Federal Regulations, Section 1. 56

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私は、合衆国法典第３５編第１１９条（ａ）－（ｄ）項又は第３６５条（ｂ）に基ずき下記の、米国以外の国の少なくとも一カ国を指定している特許協力条約３６５（ａ）項に基ずく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

I hereby claim foreign priority under Title 35, United states Code, Section 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s) 外国での先行出願			Priority Not Claimed 優先権の主張なし
10-310762 (Number) (番号)	JAPAN (Country) (国名)	30/10/1998 (Day/Month/Year Filed) (出願年月日)	☐
			☐
			☐
			☐
			☐

私は、第３５編米国法典１１９条（ｅ）項に基いて下記の米国特許出願規定に記載された権利をここに主張いたします。

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

(Application No.) (出願番号)	(Filing Date) (出願日)	(Application No.) (出願番号)	(Filing Date) (出願日)

私は、下記の米国法典第３５編１２０条に基いて下記の米国特許出願に記載された権利、又は米国を指定している特許協力条約３６５条（ｃ）に基ずく権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第３５編１１２条第１項又は特許協力条約で規定された方法で先行する米国特許出願に開示されていない限り、その先行米国出願書提出日以降で本出願書の日本国内または特許協力条約国際提出日までの期間中に入手された、連邦規則法典第３７編１条５６項で定義された特許資格の有無に関する重要な情報について開示義務があることを認識しています。

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) or 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT Information application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which become available between the filing date of the prior application and the national or PCT international filing date of application:

(Application No.) (出願番号)	(Filing Date) (出願日)	(Status: Patented, Pending, Abandoned) (現況：特許許可済、係属中、放棄済)

(Application No.) (出願番号)	(Filing Date) (出願日)	(Status: Patented, Pending, Abandoned) (現況：特許許可済、係属中、放棄済)

私は、私自身の知識に基ずいて本宣言書中で私が行う表明が真実であり、かつ私の入手した情報と私の信じるところに基ずく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第１８編第１００１条に基ずき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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委任状：私は、下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。
（弁理士、または代理人の氏名及び登録番号を明記のこと）

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

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同発明者の署名　　日付	Inventor's signature　　Date Shinichi Kodama　　Oct. 8, 1999
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国 籍 日本	Citizenship JAPAN
郵便の宛先 日本国東京都八王子市久保山町２－３	Post Office Address c/o Intellectual Property & Legal Department, OLYMPUS OPTICAL CO., LTD.
オリンパス光学工業株式会社 知的財産法務部内	2-3, Kuboyama-cho, Hachioji-shi, Tokyo, Japan

（第二以降の共同発明者に対しても同様に記載し、署名をすること。）

(Supply similar information and signature for second and subsequent joint inventors.)

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同第　　発明者の署名　　日付	Inventor's signature Date
住 所	Residence
国 籍	Citizenship
郵便の宛先	Post Office Address